

# Shenandoah Community School District

## Science

Junior Kindergarten

### JK.1 Earth and Space

#### JK.1.1 (SCSD) Understand and apply knowledge of properties of earth materials (I)

- Know earth materials (I)
  - Solid rocks (I)
  - Soils (I)
  - Water (I)
  - Gases of the atmosphere (I)
- Knows that soils have properties
  - Color
  - Texture
  - Capacity to retain water
  - Ability to support the growth of many kinds of plants

#### JK.1.2 (SCSD) Understand and apply knowledge of observable information about daily and seasonal weather conditions (I)

- Know that Earth has a variety of weather conditions (I)
  - Weather changes from day to day and over the seasons (I)
    - Names types of every day weather (I)
    - States or shows how to dress appropriately (I)
- Know that the sun provides the light and heat necessary to maintain the temperature of the earth (I)

#### JK.1.3 (SCSD) Understand and apply knowledge of events that have repeating patterns (I)

- Know that the seasons of the year, day and night are events that are repeated in regular patterns (I)
  - Sort seasonal pictures/objects by season (I)
- Know that the sun's position in the sky can be observed and described (I)
- Know that the sun can only be seen during our daylight hours (I)
  - We cannot see the sun at night because of the rotation of the earth (I)
    - Categorizes events/animals by day-night

### JK.2 Life Science

#### JK.2.1 (SCSD) Understand and apply knowledge of the characteristics of living things and how living things are both similar to and different from each other and from non-living things (I)

- Know that living things share some common (I)
  - State what animals need to live (I)
  - State what plants need to live (I)
- Know that different species of plants and animals have different observable characteristics by which they can be classified characteristics
  - Discover and name body parts that animals use to move
  - Categorize animals according to movement

#### JK.2.2 (SCSD) Understand and apply knowledge of life cycles of plants and animals. (I)

- Know that plants and animals have life cycles
  - Being born
  - Developing into adults

- Reproducing
- Dying
- Know that plants and animals closely resemble their parents (I)
  - Match adult/baby animals (I)

**JK.2.3 (SCSD) Understand and apply knowledge of the basic needs of plants and animals and how they interact with each other and their physical environment (I)**

- Knows that organisms have basic needs (I)
  - Air (I)
  - Water (I)
  - Food (nutrients)(I)
  - Light (I)
- Know that organisms interact with each other and their physical environment(I)
  - Tell how animals and plants are useful to people (food chain)(I)
- Know that organisms survive only in environments in which their needs can be met (I)
- Know that the world has many different environments (I)
  - Distinct environments support the life of different types of organisms (I)

**JK.2.4 (SCSD) Understand and apply knowledge of ways to help take care of the environment (I)**

- Know that humans depend on their environments (I)
- Know that humans change environments in ways that can be either beneficial or detrimental to themselves or other organisms (I)

**JK.2.5 (SCSD) Understand and apply knowledge of basic human body structures (I)**

- Knows that humans have distinct body structures for functions (I)
  - Thinking (I)
  - Walking (I)
  - Holding (I)
  - Seeing (I)
  - Talking (I)

**JK.2.6 (SCSD) Understand and apply knowledge of good health habits (I)**

- Know and demonstrate good health practices (I)
- Know and demonstrate good social skills (I)
- Know and demonstrate good decision making skills (I)
- Know and identify positive safety procedures (I)
- Know and practice healthy behaviors and physical activities (I)

**JK.3 Physical Science**

**JK.3.1 (SCSD) Understand and apply knowledge of observable and measurable properties of objects. (I)**

- Know that the five senses are used to gather information about the world (I)
  - Identify the body parts associated with each of the 5 senses (I)
  - State how our senses protect us
  - Use each of the 5 senses to explore the world around us (I)
  - Recognize that more than one sense is used at a time (I)
- Know that objects have many observable properties (I)
  - Size (I)
  - Weight (I)
  - Shape (I)

- Color (I)
- Temperature
- Ability to react with other substances
- Know that properties can be measured by using tools (I)
  - Rulers
  - Balances (I)
  - Thermometers
- Know that objects are made of one or more materials
  - Categorizes objects by their composition
    - Paper
    - Plastic
    - Wood
    - Glass
    - Metal
- Know that objects can be described by the properties from which they are made
  - Properties can be used to
    - Separate
    - Sort

### **JK.3.2 (SCSD) Understand and apply knowledge of characteristics of liquids and solids**

- Know that materials can exist in different states
  - Solid
  - Liquid
  - Gas
- Know that some common materials can be changed from one state to another by heating and cooling
  - Water

### **JK.3.3 (SCSD) Understand and apply knowledge of the positions and motions of objects (I)**

- Know that an object's position can be described by locating it relative to its background (I)
  - Identify positions (I)
    - Over/under (I)
    - Top/bottom (I)
    - Front/back (I)
  - Identify objects in pictures (I)
- Know that an object's motion can be described by observing and measuring its position over time
  - Identify types of motion
    - Rotary – around and around (circular)
    - Linear – moving in one direction
    - Vibratory – back and forth (oscillating)
- Know that an object's position or movement can change
  - Pushing
  - Pulling

## **JK.4 (SCSD) Science as Inquiry**

### **JK.4.1 (SCSD) Ask questions about objects, organisms, and events in the environment (I)**

- Know that they should answer their questions by seeking information (I)
  - Observations (I)
  - Investigations (I)
  - Reliable sources of scientific information (I)

**JK.4.2 (SCSD) Plan and conduct simple investigations (I)**

- Know how to observe and conduct simple investigations to questions (I)
- Know how to follow safety procedures when conducting investigations (I)

**JK.4.3 (SCSD) Uses tools to gather data and extend the senses**

- Know how to use tools
  - Rulers
  - Thermometers
  - Watches
  - Balances
  - Spring scales
  - Magnifiers
  - Microscopes

**JK.4.4 (SCSD) Use mathematics in scientific inquiry (I)**

- Know how to use mathematics (I)
  - Gather simple data (I)
  - Organize simple data (I)
  - Present simple data (I)
  - Develop simple explanations (I)

**JK.4.5 (SCSD) Uses data to construct reasonable explanations (I)**

- Know what is evidence (I)
- Know how to explain the evidence they have obtained (I)

**JK.4.6 (SCSD) Communicate investigation and explanations (I)**

- Know that scientific information can be gathered and shared with others (I)
- Develop the abilities with their work or others (I)
  - To communicate (I)
    - Orally (I)
    - Writing (I)
    - Drawing (I)
  - To judge (I)
  - To study relationships (I)

**JK.4.7 (SCSD) Knows how to follow appropriate safety procedures when conducting investigations (I)**